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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 3 1926

REPORT FOR WEEK ENDING JULY 3, 1926.

HAVRE:

The first three days of the past week were warm with unusually high wind velocity for this season of the year on two of the three days. Cooler weather with partly cloudy skies and local showery conditions prevailed the last three days.

The dry weather has been especially severe on continuous cropping of small grains. Where stands were irregular due to delayed germination, weeds made an early start and are now becoming so thick that many plats will be almost failures. All small grains on fallow look good. Winter wheat, although short in straw, is filling nicely. Some of the early seeding has begun to turn. From appearance now, winter wheat on fallow will probably make 25 bushels per acre. This is the first year since 1916 that winter wheat has shown a really normal growth.

As is shown in the following table, our rainfall for the first 6 months of this year is decidedly deficient. Were it not for the fact that the subsoil was well filled from the rainfall last fall, conditions would have been much more serious than they are.

	1926 (Inches)	1880-1924 (Inches)	Deficiency (Inches)
January	.34	.79	.45
February	.36	.51	.15
March	.12	.54	.42
April	.03	.90	.87
May	.78	1.92	1.14
June	1.83	2.87	1.04
Total	3.46	7.53	4.07

Mr. H. L. Westover, of the Forage Crop Office, was a station visitor during the week.

Maximum temperature 93, minimum 55; precipitation .01 inch.

JUDITH BASIN:

Unusually hot weather prevailed during the fore part of the week but the past three or four days have been quite cool and cloudy. Only one light shower has been received but indications for more rain are very favorable.

Judith Basin, continued:

Crop conditions as a whole are excellent but a good rain would be helpful. Corn is about 8 inches high, and oats on rotations are heading. All the crops have made a good growth. Winter rye was plowed under and crested wheatgrass on rotations were cut. Other field work has consisted mainly of rogueing and cultivating operations.

Dr. C. R. Ball, of the Office of Cereal Investigations, visited the station on June 28.

Maximum temperature 90, minimum 44; precipitation .13 inch.

HUNTLEY:

In decided contrast to the cool weather of a week ago, the past seven days have been marked by high temperatures and hot winds. Corn has rolled and scorched to some extent while small grains, especially oats and barley have turned quite brown on many of the plats.

A torrential rain accompanied by high wind occurred on July 1. The downpour lasted 20 minutes during which time .80 inch of rain was received, as indicated by the hail gauge. Most of the water ran off to the low places in the fields and, except for those favored spots, the precipitation was of little benefit to crops.

Maximum temperature 103, minimum 54; precipitation .83 inch.

SHERIDAN:

Weather conditions continued hot and dry throughout the week until last evening (July 3), although there was a trace of rain almost every day. A good shower of .65 inch fell last evening in a short period of time, with practically no runoff.

Crops seemed to stand the heat and dry weather better than the week before, although there was some steady deterioration with all grain. Winter wheat, oats, and barley are turning fast, and although the heads are short there appears to be some grain in them.

All row crops were cultivated during the week. Some fencing has been started on the new land recently purchased.

Maximum temperature 103, minimum 53; precipitation .79 inch.

MANDAN:

Agronomy

The past week has been hot and dry. On June 27 a high, hot wind blew most of the day, and the temperature went to 101°. There is not much chance for any small grain now. Fallow is still holding out, but cannot last much longer without a good rain.

Mandan, continued:

Corn was given the second cultivation during the week, and all fallow plats and the roadways were worked with the duckfoot cultivator.

Late fallow and peas were plowed. A very light growth of peas was turned under.

Corn is still looking well, but is making a slow growth.

The total rainfall for June was 1.20 inches, and for the year to date 4.71 inches. The 50-year average for the 6 months is 9.37 inches, or about twice as much.

Cooperative Grazing Experiment

The cattle made fair gains for the month of June. The smaller pastures and the rotation pasture were short of feed, and this fact is reflected in the gains. The following are the gains per head for the month of June and for the season to date:

Pasture	June gain per head	45 day gain per head
100-acres, 10 steers	84.0	139.5
70-acres, 10 steers	108.5	140.5
50-acres, 10 steers	71.5	108.0
30-acres, 10 steers	41.0	64.0
Rotations (70 acres) 16 steers	64.4	103.4
Bromegrass(25 acres 6 steers	108.3	145.8
Sweetclover (10 acres 5 steers	69.0	97.0
Reserve (93 acres) 10 steers	106.5	140.5

A 3-yr. old steer that was on the Beef Cattle Special train that toured North Dakota and Minnesota during the past six weeks, was shipped to the station by the Agricultural College. He was the "inferior" type of killing steer. It is estimated that 80,000 people viewed him on the trip. He will be kept here on the pastures to determine just what gains he will make on the range.

Horticulture

The continued dry weather is very hard on early small fruits such as strawberries, Juneberries and currants. Strawberries on dry land are practically a failure, but in spite of the unfavorable weather, there are fair crops of Juneberries and currants. Raspberries have set a good crop of fruit, but unless rain falls soon the fruit will be of little value.

Mandan, continued:

The orchard trees are now receiving the third spraying of the year. Aphids are troublesome on some of the plums, while leaf hoppers are attacking the grapes. Plum gougers are also doing plums some damage.

The orchards are being cultivated for the second time this season.

Arboriculture

The shelterbelt inspectors left Mandan July 1. They will travel on the following schedules:

E. J. George. Mott, N. Dak., July 4; Lemmon, S. Dak., July 8; Timber Lake, S. Dak., July 12; Faith, S. Dak., July 18; Belle Fourche, S. Dak., July 22; Gillette, Wyo., July 25; Sheridan, Wyo., July 28; Buffalo, Wyo., July 31; Cheyenne, Wyo., August 5; Ardmore, S. Dak., August 10; Rapid City, S. Dak., August 12; Pierre, S. Dak., August 22; Linton, N. Dak., August 26; Mandan, N. Dak., August 27.

John L. Emerson. Williston, N. Dak., July 4; Glasgow, Mont., July 13; Havre, Mont., July 22; Great Falls, Mont., August 2; Lewiston, Mont., August 7; Moccasin, Mont., August 10; Harlowtown, Mont., August 13; Billings, Mont., August 16; Miles City, Mont., August 23; Dickinson, N. Dak., August 24; Mandan, N. Dak., August 26.

Lewis Matthew. Fessenden, N. Dak., July 7; Bottineau, N. Dak., July 10; Williston, N Dak., July 21; Glendive, Mont., August 1; Hettinger, N. Dak., August 13; Beach, N. Dak., August 15; Dickinson, N. Dak., August 17; Killdeer, N. Dak., August 18; Mandan, N. Dak., August 21.

Field Reports. Flasher, N. Dak., July 1. "Crops north of Flasher very poor, southwest of Flasher, considerably better." Garrison, N. Dak., July 1. "Crops in this vicinity look better than farther south. Heavy shower between Washburn and Garrison."

BELLE FOURCHE:

The first part of the week was intensely hot. On the 27th of June the temperature reached 102 and the temperature remained high until the hot wave was broken by a rain of nearly two inches on the night of June 30. The rest of the week was cool.

Bellefourche, continued:

Grains on practically all methods of cultivation except summer fallow fired during the hot weather. However, none of the plats was severely injured and indications are that yields will be considerably above the average. Barley is now ripening and is well filled, though short.

Corn, which was somewhat backward, grew rapidly during the hot weather and is now almost as far advanced as usual. The sorghum was likewise benefited by the warm weather.

The corn plats were hoed and the roads and alleys cultivated during the week. One of the plats of peas was plowed under on June 30, and the other was about three-fourths finished before the rain. The field has not yet dried sufficiently to allow the completion of the plowing.

The precipitation for the month of June was 4.56 inches. The rainfall for the first six months of the year is 11.36 inches, which is 3.11 inches above the average.

Maximum temperature 102, minimum 57; precipitation 1.97 inches.

ARDMORE:

The long continued drought was broken by rain of .48 inch during the week. This is the largest rain that has been reported at this station at a 24-hour period for some weeks. While the amount was insufficient, it gave material relief for a temporary period. Practically no moisture was available for plant use in any of the rotation plats. Small grain is locking remarkably well, considering an exceedingly dry season and corn and all cultivated forage crops are making good growth.

Native pastures are in the poorest condition that they have been in for several years at this station, at so early in the season. Cattle used in the grazing experiment made remarkably good gains during the month of June, but it is quite evident that the cattle on the 80-acre pasture will be very short before the end of July.

Official visitors during the week were Mr. Stenhouse, Official Photographer for the Bureau of Animal Industry, and Mr. Duncan Stewart, of the Dairy Bureau.

The total precipitation for the month of June was 1.80 inches. Total precipitation January 1, 1926 to June 30, 1926, inclusive, 6.51 inches.

Maximum temperature 102, minimum 51; Precipitation .48 inch.

ARCHER:

During the week the weather was warm, clear and suitable for field work. Most of the labor operations consisted of reseeding millet, flax and beans. Due to the lack of millet seed, part of the dairy field was reseeded to Sudan grass. The cultivation of corn was undertaken as soon as the soil would permit. The cultivation of alleys is in progress.

Mr. J. Allen Clark and Mr. Quisenberry visited the station Saturday, July 3.

Maximum temperature 92, minimum 51; precipitation .58 inch.

AKRON:

Showers have been common over this region beginning early in the week. This particular area did not receive any of the precipitation until Thursday evening when a little more than an inch was received, accompanied by a vivid electrical storm. The next evening, Friday, another electrical storm passed over which netted nearly three-fourths of an inch. Today, Saturday, is sultry hot and the general opinion is prevalent that the thunder storms are not yet over. These rains should fill whatever of the small grains are remaining and it is possible that there will be more of the small grains produced than last year. The rains should produce more corn stover and more sorgo forage than was produced at the end of last season.

Corn is about knee high and has not yet suffered for moisture. It is expected that with warm weather following the rains, the corn will be waist high in a short time. Sorgos and sorghum are now about six inches high, and these crops should be able to make considerable growth the next two weeks.

In a trip on the 27th south and east through Cope, Joes, Indalia, Beecher's Island, Wray, Eckley, Yuma, and Otis small grain crops appeared to have suffered almost as much as at the station with the exception of the region around Indalia. In and around Indalia some wheat was seen that could make from 25 to 40 bushels per acre, depending on how well the heads were filled. Other wheat in this same region did not promise more than ten to fifteen bushels. The best wheat was on fallow while corn ground did not promise more than eighteen bushels per acre at the best, and from that down to eight to ten. This indicated that moisture has been a limiting factor in that region, but that they have not experienced the dire shortage that this particular region adjoining the station has experienced. After the Arickaree River was crossed going north into Wray, conditions were the same as here and continued the same with very small localized areas as exceptions until the station was reached again.

Akron, continued:

The variety corn was thinned to definite uniform stands. The forage variety experiment was cultivated for the first time. Barley on last season's forage variety experiment was cut for hay. The barley was thin on the ground and only stood about 18 inches high but appeared to be filling well. Only a portion of this hay crop was hauled in and weighed before the rain. The cereal project roads were duckfooted. Labeled stakes were set up on the forage variety experiment. The soy bean variety experiment was fenced with 2-foot chicken wire to keep out rabbits.

Maximum temperature 101, minimum 52; precipitation 1.74 inches.

COLBY:

Weather continued hot during the week. A few local showers fell during the week but none fell on the station that would benefit the growing crops.

Winter wheat harvest was completed during the week, with the exception of a commercial field of about 17 acres which is short and will be cut with a header. All listed sorghums on the station were throwed out during the week. The spring seeded grains on the project and varieties and commercial field of barley were mowed and raked during the week. There was very little straw on any of the plats. It was only necessary to cut a few patches in the commercial field of barley as the balance was a complete failure. All of this material from the experimental plats and from the field was hauled to the barn for feed.

Corn continues to grow and looks fine for the season. Unless rain comes soon it will suffer severely for lack of moisture. Corn rolls now during the hot part of the day. The sorghums are showing a stand, even where a stand was not secured previous to the rain.

Cherries were a good crop this year and cherry picking has been in full swing the latter part of the week. Several peach and apple trees have considerable numbers of green fruit at the present time. Crab apples are going to be fairly plentiful.

Director L. E. Call, of the Kansas Station, visited the station on the 3rd.

GARDEN CITY:

The past week has been hot and dry. The heat was especially noticeable because of the absence of wind. The sorghums have made an unusual rapid growth as has corn and cowpeas.

Garden City, continued:

Harvesting of winter wheat was completed yesterday when the last three dates in the date of planting test were cut. Wheat harvest in the surrounding country is in full progress. Some yields of 20 bushels to the acre have been reported.

All row crops were cultivated during the week. The fallow plats were either double disked or spring tooth harrowed.

Maximum temperature 103, minimum 60; precipitation 0.

DALHART:

The past week has been fair and hot. While the temperatures have not been so high, the weather has seemed quite hot. The maximum temperature thus far recorded is 93. The entire week without rain is rather an exception for this year and crops have responded readily.

A great deal of field work was accomplished during the week without a single delay. All cultivating of crops has been completed for once over and some of it more, according to time of planting. The cropping field as a whole is clean. Oats on Rotations 58 and 59 were harvested on the 2nd. Just as soon as the oats are ready for threshing, all the small grains will be threshed. The thinning of the rates and variety grain sorghums has been finished. The forage sorghums remain to be thinned. The plowing of plat ends to dimensions, (plat trimming) is all finished except the variety grain sorghums and dates. This is delayed until after the germination of the last date of planting which was made on June 30.

The crops are all making excellent growth at this time. The corn is about waist high with the early planted kafirs and the first two dates of sorghums ranging about knee high. The last date of planting has not emerged at this writing. Wheat harvest is in full swing in this section. Unusually high yields are being obtained. Many combines were sold in this section this spring and are in full operation. Yields ranging from 30 to 42 bushels have been reported.

The early plowing of wheat and rye plats is already accomplished, also other preparation methods for wheat which has just been put in. The winter wheat of this year's crop was all on uniform treatment. The planting to be made this fall will be on regular treatments as outlined. In all, there are five methods of preparation for winter wheat.

Maximum temperature 93, minimum 58; precipitation 0.

TUCUMCARI:

Normally hot, dry weather the past week permitted field work to progress satisfactorily. Crops, while late, are making excellent growth and thinning is well under way. Cultivating, knifing listed increase, mowing tree row and lawns, and hoeing have been performed during the week, aside from a large amount of thinning.

Wheat harvest on the plains is progressing rapidly, with indications of good yields except where hail severely injured the fields. Most of the harvesting is being performed with combines and the first wheat came to Tucumcari early this week. The market opened at $1.05 but dropped to $.96, with indications of a further drop.

Maximum temperature 95, minimum 63; precipitation 0.

BIG SPRING:

Fine growing weather has prevailed during the past week and all crops have responded to it in good shape. Cotton throughout this section is in fine shape, and the present indications are that a bumper crop will be produced. The Mexican flea is being reported in some places to be doing some damage. If this pest becomes general in this vicinity, cotton yields will be reduced a great deal.

With the exception of the late dates, the thinning of the plats was completed this week. All plats were cultivated soon after thinning.

The July date of seeding was made on time, but it is doubtful if there is enough surface moisture to germinate the seed. The April 5 date of Sudan grass was harvested this week. A very good yield will be obtained from this cutting.

Maximum temperature 93, minimum 64; precipitation 0.

WOODWARD:

The past week has been hot and dry; the wind movement and evaporation have been fairly high.

Wheat harvest is nearly completed and threshing has commenced in this county. Reports of very good yields are being received.

Work during the week has consisted principally of thinning and cultivating. The thinning of crops on the D. L. A. project was finished Friday.

Woodward, continued:

The milo, kafir, cowpeas, broomcorn and sumac sorgo were cultivated for the first time. Corn has been cultivated for the last time. All row crops are making rapid growth. The July 1 date of corn was planted Thursday. The last of the cherries, the English Morello, were picked today (Saturday). The cherry crop on the station has probably been the best we have ever had.

The last wheat plat in the effect of pasturing experiment has been harvested. This plat was pastured until May 1, and was so short that it was cut with a mower.

Maximum temperature 99, minimum 63; precipitation 0.
Evaporation 2.664 inches. Average hourly wind velocity, 6.7 miles.

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U. S. DEPARTMENT OF AGRICULTURE

JUL 10 1926

REPORT FOR WEEK ENDING JULY 10, 1926.

HAVRE:

Crop conditions during the past week were not as severe as the records indicate. The maximum temperatures ranged from 80 to 94, the minimums from 48 to 65, and traces of precipitation recorded on two days. Rains have been recorded during the week in most every direction. Southern Alberta and Saskatchewan had rains varying from one to two inches Showers were reported starting about twenty miles east along the Milk River. Very heavy rains also fell in the Bear Paw Mountains and south. The central part of the "triangle" continues dry. The wind velocity was low.

Corn on the rotations is uneven due to such a large percentage of delayed germination. That which germinated first is making fairly good growth. While spring wheat is suffering, it is making fair progress on plats that are not too weedy. Winter rye was harvested during the week. Winter wheat this year is unusually clear of Russian thistles but a great many of the plats show very short straw. Many oat plats will be very short and in general oat yields will be very low. A few of the oat and barley plats are beginning to turn.

The second growth of irrigated alfalfa is making an unusually heavy growth, most of it beginning to show blossom.

Range in this section is beginning to get very short.
Maximum temperature 94, minimum 48; precipitation, Trace.

JUDITH BASIN:

Warm weather has prevailed throughout the greater portion of the week, but the last few days have been quite cool. A heavy rain occurred on July 7 and 8, and 3.20 inches of precipitation was received within a period of 14 hours. This is the largest rain on record since the station was established in 1908. Although considerable runoff occurred, a large proportion of the moisture was absorbed by the soil. The rain came at a very opportune time as crops were suffering from lack of moisture, and spring wheat had commenced to fire.

Corn has made an exceptionally rapid growth and all crops have shown a marked improvement. A fair crop of winter wheat is now practically assured, and prospects for an unusually heavy yield of spring wheat are very promising. Flax is in full bloom, and aside from the winter wheat and rye plats which were reseeded, all small grains on the rotations are fully headed.

Mr. F. B. Astroth, of the American Jersey Cattle Club, and Mr. J. O. Tretsven, of the Montana State College, visited the station on July 9.
Maximum temperature 85, minimum 46; precipitation 3.20 inches.

HUNTLEY:

Rain and cooler weather during the past week has been of great benefit to such crops as corn, beans, potatoes and alfalfa. Small grains on most plats are too far gone to be helped toward higher yields. One shower amounting to 1.12 inches was received during the afternoon of July 8. Although most of this rain came as a torrential downpour which resulted in a large part of it being lost as run-off, sufficient moisture entered the soil to create a small surplus above the present daily needs of the crops.

Field work has consisted in cultivating fallow plats, roads and alleys, hoeing row crops, and weighing the pasture hogs.

Assistant Secretary and Mrs. Dunlap, of the Department of Agriculture, visited the station on July 9.

Maximum temperature 93, minimum 50; precipitation 1.18 inches.

SHERIDAN:

Fairly cool and cloudy weather over the most of the week and about three-quarters of an inch of precipitation maintained crop conditions in about the same condition as last week without further noticeable deterioration except for durum wheat in some of the rotation plats. With this crop a large number of heads, particularly on spring and fall plowing, have turned white, apparently blighted. A few fallow plats have a few of these heads present, while on some of the fall and spring plowed plats the percentage of white heads appears as high as 50 to 60 per cent of the total crop.

Harvesting of small grain was begun today, July 10. Oats on fall plowing ripened ahead of any other preparation. Four plats of winter wheat on corn ground also ripened ahead of the other cultivation methods for this crop.

Late forage crops made a good growth during the week, and have a plentiful supply of moisture to carry them for some time.

Assistant Secretary Dunlap, accompanied by Senator Kendrick and a delegation from the Sheridan Commercial Club visited, the station Thursday.

Maximum temperature 85, minimum 47; precipitation .90 inch.

DICKINSON:

Hot, dry weather has continued with two showers that were of some benefit to crops. Before the showers of July 8, which amounted to .54 inch, most all fields were drying badly so that grains on fallow were the only ones which promised anything like a fair yield.

Dickinson, continued:

Most of the oats and wheat on fall plowing have failed to head and will not do so unless heavy rains come soon. Grains on corn ground are not as good, relatively, as in an average year. Wheat on corn ground has a higher per cent of the heads blighted by root rot or some similar disease.

Some of the poorer fields on farms are being mowed for hay.

Corn, potatoes, root crops and the garden have all done very well considering the poor showing of grain crops. Corn is beginning to tassel at about two feet high, so it will be short. All of the corn was cultivated for the third time during the past week.

Trees and shrubs where well cultivated are looking good and have made a fair growth for the dry season. The fruit of plums and crabs is small in size but several varieties have a heavy crop. Late seeded flax and millet are looking good.

The precipitation at this station amounted to 10.98 inches for the 12 months ending June 30.

Maximum temperature 94, minimum 46; precipitation to date in July .90 inch.

MANDAN:

Agronomy

The past week has been dry with some hot days and some cool. Small grain on fallow and on some corn ground is still holding out, and with rain may make some crop. Corn is coming along in fair condition. It has curled in spots on several different days.

Russian thistles are thick in most plats that were fallow last year. Practically all plats have a heavy growth of Russian thistle on the borders.

Fallow in field P was worked with the duckfoot cultivator, and all roadways in the other fields. Alleys have been cultivated.

Maximum temperature 93, minimum 51; precipitation .09 inch.

Mandan, continued:

Cooperative Grazing Experiment

Pastures continue to decline. Nine steers were taken out of the rotation pasture during the week, and put on reserve. Other shifts will no doubt have to be made soon.

Horticulture

Tomato plants in the various experiments and tests have been pruned and tied to stakes.

Cauliflower and peas have been harvested in the acre garden. Peas are of rather poor flavor and quality, but the cauliflower heads are of usual size and of excellent quality. So far, the vegetable crops in the acre garden have been holding their own, but the intense heat of the past week has been very telling, and if rain does not come soon, the project is likely to be a failure this year.

Tomatoes in the breeding project have made excellent growth, but very little fruit has set so far.

Sweet corn in the breeding project has made rapid growth during the past week. Some strains are showing tassels and pollination will probably start next week. Two new varieties were added this year, and one is all out in tassel and silk. Some selfing and crossing was done on this variety Friday and Saturday.

The lawns had dried up again and irrigation has been in progress the latter part of the week.

Golden elder, Hydrangea arborescens, Spirea bumalda, and Sorbaria sorbifolia, are in full bloom on the grounds.

The Rugosa and Rugosa hybrids, continue to produce a few scattered blooms. Some hybrids, such as C. F. Meyer, Nova Zembla, and New Century are very double and distinctly desirable.

Arboriculture

Shelterbelt inspectors report as follows:-

Mr. E.J. George, Brisbane, N. Dak., July 2, "Crops around Raleigh and Brisbane fair. Heavy hail storm in June cut trees badly." Mott, N. Dak., July 3. "Crop conditions good. Trees in excellent shape." Amidon, N. Dak., July 7. "Crops good. Trees in fair condition; show severe freezing back in some plantings." Lemmon, S. Dak., July 8. "Crops around Hettinger finest yet seen. Have had plenty of rain."

Mandan, continued:

Mr. John L. Emerson: Parshall, N. Dak., July 2. "Crops only fair in this vicinity." Medicine Lake, Montana, July 6. "Crops fair here and south of Missouri River. Farmers expect wheat to go about 20 bushels to the acre."

Mr. Lewis Matthew: Matthew's itinerary was changed to allow him to return to Mandan from Washburn, N. Dak., and inspect plantings between Mandan and Kildeer before going to the northern part of the state. He will start north on July 12, one week behind the original schedule.

BELLE FOURCHE:

The whole week was warm and humid. Temperatures were not high but kept within a narrow range. The minimum temperature fell below 60 degrees on only one night. There were only three days on which measurable amounts of rain fell, but rain threatened practically every day of the week.

Grain crops are in excellent condition. Barley is almost ripe and is well filled, though short. Oats, wheat, and winter wheat have made an unusually good growth and promise yields about the average. The oats have commenced to turn and a number of the plats will doubtless be ready to harvest during the next week.

Corn and potatoes are looking good. The corn particularly grew rapidly during the week. A few tassels have appeared, though tasseling will not become general for at least a week.

The camp for boys and girls will be held at the station next week. The annual Farm Picnic will be held on July 17. The principal address will be delivered by Dr. Elwood Mead, Commissioner of Reclamation. Other prominent visitors and speakers are Geo. C. Kreutzer, of the Bureau of Reclamation, C. S. Scofield, of the Department of Agriculture. Senator Peter Norbeck, Senator Wm. McMaster, Congressman Wm. Williamson, Governor Carl Gunderson, State Secretary of Agriculture B. F. Myers, President F. W. Sargent and Vice President A. C. Johnson, of the Chicago and Northwestern Railway, and President W. L. Petrikin, of the Great Western Sugar Company.

Maximum temperature 83, minimum 48; precipitation .49 inch.

ARDMORE:

The soil moisture conditions improved very materially during the week. On July 8 there was a rain fall amounting to .66 inch, which was the largest rainfall recorded in a twenty-four hour period during 1926.

Ardmore, continued:

The rain which fell during the week came too late to be of any benefit to most of the small grain crops but a few of the late varieties will be materially benefited. Harvesting of oats was started on the 7th, but was interrupted by rain. The barley fields on the station are dead ripe but this crop is so short that it will have to be harvested by a combine.

Corn, cane and other annual crops have not suffered greatly for the lack of moisture and are making a very rapid growth.

The Farm Boys and Girls Camp, conducted under the auspices of the County Agent, closed on the morning of July 10. The camp was very successful in every respect, although the enrollment was not up to the expectations. A number of extension workers of the South Dakota Agricultural College assisted in conducting camp. Among others here were Professor Turner Wright, Miss May Keithline and Mrs. George Phillips. Mr. Sam Sloan, County Agent of Fall River County, and Mr. Biderman, County Agent of Dawes County, Nebraska, were also present.

The Farm Picnic which was to have been held July 10 was postponed on account of rain and will be held July 15.

Official visitors during the week were Assistant Secretary of Agriculture R. W. Dunlap, Mr. E. Z. Russell, who is in charge of Swine Investigations, and Mr. Val Kuska, Colonization Agent for the Chicago, Burlington and Quincy Railroad Company.

Maximum temperature 89, minimum 48; precipitation 1.19 inches.

ARCHER:

Precipitation has been recorded every day this week with a total of 1.91 inches. The highest temperature recorded was 80 degrees which occurred July 3. Since then the average maximum has been 68.5 degrees. The minimum was 45 degrees. These conditions have, to a large extent, prevented field work.

On the night of July 3 there was a rain of .76 of an inch and during July 7 one of .81 of an inch. These rains produced large amounts of run-off water. The run-off from these rains completed the damage to plats E and F in the continuous cropping plats of corn on Series C. Some of the roadways were badly washed.

Archer, continued:

The reseeded millet and Sudan grass are doing well. Corn has been checked in growth but is still looking well. Small spring cereals are growing rapidly as are also the sunflowers and potatoes.

Dean J. A. Hill and University Fiscal Agent Mr. Fuller visited the station, July 8.

Maximum temperature 80, minimum 45; precipitation 1.91 inches.

AKRON:

More than ample rains for present needs have been received. Sand creek, about a quarter of a mile south, ran some four feet deep and twenty to thirty feet wide following the rain of 1.16 inches on the 7th. There was a very high percentage of run-off after the first two inches had been received. A rain a day became the rule. After the rain of 1.04 on the 2nd there followed .69 inch on the 3rd, .66 inch on the 4th, .38 inch on the 5th, .58 inch on the 6th, 1.15 inches on the 7th, and .03 inch on the 8th.

It was possible to do the first field work today, aside from some hoeing which it was possible to do a day or so earlier. The bean and soy bean variety and the sorgo and sorghum nursery was cultivated today. It will be necessary to stir all soil as quickly as possible to check the myriads of weeds which are starting. Weeds of no significance before the rain have sprung up to prominence, and the Amaranthus or Red Root is heading.

The corn and the sorgo and sorghums have made rapid growth. Practically all the corn will be cultivated the last time early the next week. Oats and spring wheat plats are dense with weeds. A high percentage of the oats had not headed before the rain and were it not for the weeds prospects would be good for a crop.

Winter wheat in many instances is sending up new heads. In other instances heads which appeared to be hopelessly burned are filling. However, it does not appear that there can be head covering enough to produce even an average crop.

Maximum temperature 80, minimum 58; precipitation 2.80 inches.

NORTH PLATTE:

Frequent showers and moderate temperatures have supplied excellent growing conditions for row crops, alfalfa, and pastures.

North Platte, continued:

Winter wheat on fallow plats in Field 42 was cut on July 5. This will make a yield of probably 12 bushels per acre. Winter wheat and most of the spring grains on continuously cropped land are so nearly total failures that no attempt will be made to secure yields. In many cases no heads were produced except on the plat borders. Weeds have come on so vigorously since rains have begun that it is useless to attempt to secure straw weights.

Corn on the rotation plats has been laid by. It is now between 3 and 4 feet in height and first tassels are beginning to appear. The plats now present a fine appearance but there is practically no available moisture below the second foot, and considerable rain will have to follow to assure a crop.

COLBY:

Corn made the most rapid growth during the week that it has made all season. In spite of the lack of sufficient rain to wet the ground to any appreciable depth the corn has a good color and has not rolled and curled to the extent that was anticipated. It has now reached sufficient size so that a few warm, dry days will begin to tell on it quite readily. A commercial field of corn, the corn varieties (two replications), and the corn nursery field were harrowed and then cultivated during the week. This puts all of the corn in good shape and all levelled.

Sorghum thinning of varieties was finished during the afternoon of July 10. There remains to be thinned four listed plats on the D. L. A. project that did not come up until after the rain, the latter part of June. This was not sufficiently tall to thin at the time that the other sorghums were thinned. The sorghums in the lister furrows are just beginning to start growth. The surface planted on spring plowed and fall plowed is fully as backward this year as is that in the lister furrows. The milo on surface planted is fully 9 inches high and is starting a rapid growth. To date the sorghums have not suffered from the lack of moisture.

Cutting of the barley nursery was continued during the week. No threshing has been done yet. It will be the latter part of the coming week before threshing will commence on the station.

Maximum temperature 93, minimum 59; precipitation .45 inch.
Evaporation 2.124 inches. Average hourly wind velocity 7.3 miles.

GARDEN CITY:

The past week has been somewhat cooler. Rain has threatened almost every night during the week but only small amounts of precipitation were received. The largest shower of the week was recorded last night when .32 of an inch of moisture was received.

All row crops have made a very satisfactory growth. Sudan grass on the first date of planting is beginning to head.

Field work this week consisted of hoeing roadways and alleys and thinning some of the later dates of planting.
Maximum temperature 97, minimum 62; precipitation .58 inch.

DALHART:

The past week has been hot. At times there was very little wind, while the wind blew quite hard at other periods. There was some cloudiness with threatening rain. Two small showers were recorded during the week, one on the 6th netting .17 inch, the other on the 9th netting .07 inch. The first rain delayed field work only a few hours while the last one did not delay work at all.

The cultivators were kept going all week and have about covered everything. Instead of the shovels, we are using long knives attached to the shanks. These knives are leaving the soil in excellent condition and are getting everything in their path. By tonight everything will have been cultivated since the last good rain. The mowing of roadways, etc., was finished this week. Thinning of the 3rd and 4th dates and varieties on fallow was finished today. Some hoeing was done during the week. It was necessary to do more spraying this week on account of the tobacco worm. This worm is attacking the poplar trees in great numbers and have thinned out the leaf surface. The spraying ought to thin them out.

The crops have made exceptional growth this week. The first two dates of Sudan grass are headed and some of the grain sorghums in the first date are in the boot. Field corn is just about ready to tassel.

Harvesting of winter wheat is in full blast in this section now. Many of the farmers bought combines, the Massie-Harris being in the majority. The Gleaner, operated entirely by a Fordson is in use also and seems to be doing excellent work and standing up well. This one requires less labor than any of the others and seems to be covering the ground rapidly. The maximum yield of wheat reported is 60 bushels per acre. This yield was made on 10 acres and is supported by an affidavit.
Maximum temperature 94, minimum 56; precipitation .24 inch.

BIG SPRING:

Weather conditions during the past week have remained very hot. A light rain consisting of .29 inch fell on the night of July 7, but this only cooled things off for the time being.

The July 1 date of seeding of sorghums and cotton is emerging to poor stands. It is hoped that the recent shower will improve them somewhat. All of the earlier planted crops are looking fine and are growing fast.

Work this week has consisted mainly of cultivating and thinning some of the increase fields of sorghums.
Maximum temperature 102, minimum 67; precipitation .29 inch.

LAWTON:

The maximum temperature for the past ten days varied from 94 to 103 with an average of 99. Hot winds have blown much of the time, and row crops have shown an acute need of moisture. A few threats of rain appeared but ended in dust storms until the night of the 9th when the droughty period was temporarily relieved by a rain of .73 inch.

Corn on the upland is beyond recovery, but on the creek bottoms there is a chance for a light crop. Although sorghum crops have suffered from the lack of water, they are still in pretty good growing condition.

Feterita planted April 15 is in full head. Reed kafir and Kafir No. 71 are just beginning to head. Common feterita shows very severe chinch bug injury, but spur and dwarf feterita indicate practically no injury as yet.

Sudan grass planted April 15 was cut for hay July 7. Later dates of the same crop are also approaching harvest rapidly.

Cotton has made but limited plant growth so far, and squares have been setting on much of it for some time. During the day the plants have wilted somewhat, but present conditions will probably show considerable improvement for a while, at least.

Threshing was completed July 2. Only a part of the grain has been cleaned, weighed, and yields calculated as yet. The average yield of wheat on the rotations will slightly exceed 25 bushels per acre.

A 10 acre field of oats, raised for feed, yielded 569 bushels.
Precipitation for the week------.77 inch; precipitation for June-1.20 inches. Deficiency, January 1 to June 30-----5.54 inches.

WOODWARD:

Threshing of wheat plats was started on the 6th, but was halted by nearly an inch of rain that night. Work was resumed Thursday noon and finished Friday afternoon. While the wheat yields were fair they probably are not so good as much of the wheat over the country, whereas the reverse is often the case. The yields were as follows:

	(bu.)			(bu.)
CC-A	12.5		155-D	25.5
CC-B	20.8		156-D	28.8
CC-C	29.7		402-D	19.0
CC-F	20.5		570-D	28.2
X	12.8	disk late	164-B	21.8
Y	16.7	E.F. plow shallow	164-C	30.5
Z	20.7	Disk several times	166-B	25.7
A'	10.8	Duplicate of A	167-B	23.5
B'	11.5	Duplicate of B	262-A	25.0
151-D	22.7		263-A	17.2
152-D	22.5		264-A	18.7
153-B	21.2		265-A	20.8
154-D	26.0			

Average of all plats 21.3 bushels per acre. Rye yields are not yet computed, but will probably average about 12 bushels to the acre. There was considerable variation in the quality of the wheat, and the weight per bushel varied from 58 to 63 pounds on the various plats.

The plats in the "Effect of Pasturing" experiment gave some very good results. This experiment covers 13 tenth acre plats, three of which are not pastured. This season there was an increased yield on the plats pastured during the fall and winter up to the middle of February. There was no decrease below the check plats from pasturing up to March 1, but from that date on the yields dropped from 1 to 2 bushels for each two weeks pasturing period after that date. This result was obtained whether the plats were pastured through the fall, winter, and spring or only during a period in the spring.

The ends of the plats have been trimmed and the roads lined up. Some blackberries and early apples have been picked and some cement and road work done.

Maximum temperature 100, minimum 62; precipitation 1.48 inches. Evaporation 2.434 inches. Average hourly wind velocity 5.7 miles.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 17 1926

REPORT FOR WEEK ENDING JULY 17, 1926.

HAVRE:

The past week was very hot and crop conditions were very severe. The maximum temperature was above 90° for five days with an average maximum of 93°. The minimum was below 50° only once with an average of 58°. A light shower of .08 inch was recorded on the 15th.

Grain crops that are well advanced and on fallow, while not progressing very rapidly, are not suffering severely. Later seeded crops including grain and corn are burning badly. Late seeded flax except for weeds is in pretty fair condition. Commercial fields of oats seeded on corn ground were mowed during the week. A very heavy growth of second cutting alfalfa which is irrigated is ready for harvest.

In company with business men and farmers who made a tour of the county on the 15th, under the direction of the county agent, it was noted that crop conditions are very spotted, with no crops unusually good. Probably 40 per cent of the grain crops in this county will not be harvested. These were seeded on disking or spring plowing. Wheat on fallow will make a light crop varying probably from 5 to 20 bushels per acre. Quite an increase was noted in the acreage of barley for this year. A decided increase was also noted in the amount of land that is being fallowed this year. Another feature of this fallow is that most of it was plowed early, and at present is clean of weed growth. Certain sections in the north and west have had probably twice as much rain during the summer as the eastern end.

Station records continue to show this to be the driest year since the station was started. The first six months of this year each show less rainfall than was recorded in 1919.

JUDITH BASIN:

Hot weather has prevailed throughout the week but no strong, hot winds have occurred. All crops, particularly corn and potatoes, have made a very rapid growth. Winter wheat on the station is commencing to ripen, and a few isolated fields in the Judith Basin will be ready to harvest next week. The majority of the winter wheat, however, will not be ripe until after August 1.

Judith Basin, continued:

Field work is devoted chiefly to cultivating, hoeing, and rogueing out weeds, and preparing for the Annual Farmers' Picnic which will be held at the station next week.

Maximum temperature 87, minimum 44; precipitation 0.

HUNTLEY:

The past week has been hot and dry and as a result all grain crops have been hastened toward maturity. Moisture received a week ago was of great benefit to corn, beans and similar row crops which have made considerable growth during the last few days. Thistles in the plats of small grains have likewise responded to the more favorable growing conditions and have practically taken the oats, barley and continuous cropping wheat plats. Some of the grain on fallow is still ahead of the thistle growth and can be harvested.

Field work has consisted of hoeing roads and alleys and taking a general round of soil samples.

Maximum temperature 96, minimum 53; precipitation, Trace.

SHERIDAN:

Weather conditions have been warm and dry over the most of the week. Winter wheat, oats, and barley ripened rapidly, and all of these crops in the rotation field have been harvested except for a few of the later maturing plats. Hulless barley for feed is being cut today. The rates and dates of seeding winter wheat and the varieties of this crop also are mostly ready to harvest. The varieties of spring grain were rogued during the week, and other plats of Marquis are now being rogued.

The condition of spring wheat in the rotations deteriorated steadily during the week. Fallow and corn ground still remains in fair condition, but many of the spring and fall plowed plats are practically a failure.

The station picnic was held on the 14th under the auspices of the local Farm Bureau. Mr. E. P. Taylor, organizer for the American Farm Bureau Federation, was present and made the principal talk. The county agents and parties from the counties to the south and east were present, as well as the superintendent of the state station at Gillette. There was a fair attendance of farmers, more going over the work than at any previous time. Mr. Westley, Extension Agronomist from Laramie, also was present and made a short talk.

Maximum temperature 94, minimum 49; precipitation, 0.

MANDAN:

Agronomy

The past week has been hot and dry, with hot wind on several days. Corn has been curling badly during the week, but a good rain will still help to make some corn.

Small grain on fallow is still holding out and may make some crop without further rain.

Winter rye and crested wheat grass was harvested during the week. The second cutting of alfalfa along the coulee has been started. Maximum temperature 97, minimum 47; precipitation, Trace.

Cooperative Grazing Experiment

The cattle were moved from the bromegrass pasture, sweet clover, and 30-acre pasture during the week. While the cattle did not lose weight during the 15-day period, the pastures were cleaned up so that a loss would come soon.

The steers in the sweet clover pasture show a high gain for the 15-day period. They were, however, out of feed and had made part of this gain on thistles. It was also desired to give the sweet clover plants a chance to make seed if possible, otherwise the cattle could have stayed on the sweet clover pasture for several days longer.

The 9 steers that were removed from the rotation pasture 10 days ago made 45.6 pounds per head during the 10 days, while the reserves proper made 38.5 pounds per head for 15 days.

Izze, the 3-year old steer that was on the Beef Cattle special train, shows a gain of 90 pounds during 12 days that he has been on pasture.

The 41 steers now on reserve pasture are on the 164 acres of hay land.

The following table shows the gains of the cattle for the 15-day period, and since they have been on pasture, or 60 days.

Pasture	No. of Steers	Per head gain	
		15 days	60 days
100 acres	10	38	177.5
70 "	10	32	172.5
50 "	10	16	124.0
30 "	10	10.5	74.5
Rotation, 70 acres	7	22.9	122.9
Brome, 25 acres	6	15.8	161.9
Sweet clover, 10 acres	5	62.0	159.0

Mandan, continued:

Arboriculture

Report of crop conditions by shelterbelt inspectors:-

Mr. E. J. George: Mobridge, S. Dak., July 10. Grain badly burned from Mobridge to Selfridge, N. Dak. Corn good. Isable, S. Dak., July 12. Wheat gone. Corn good. Old tree plantings show effects of drought. Dupree, S. Dak., July 14. Crops very poor.

Mr. John L. Emerson: Scobey, Mont., July 9. Crops excellent northeast of here and better over in Canada. Wolf Point, Mont., July 11. Crops to the south not as good as at Scobey. Crops north of here pretty good. On account of a very dry spring some of the trees do not look very well. Glasgow, Mont., July 13. Getting very dry. Need rain badly.

Mr. Lewis Matthew: Underwood, N. Dak., July 13. Crops fair. Some good wheat. Fessenden, N. Dak., July 15. Crops fair northeast of here, but yield will be light. Drake, N. Dak., July 16. Crops poor. Trees look good.

Caragana seed was picked during the week. Dry weather has caused the seed to ripen rapidly. A fair supply will be obtained.

Horticulture

Fruit trees and small fruits are suffering from the continued dry weather. This is especially true of trees in close planted formation where a considerable part of the fruit of apples and plums is shrivelling up or falling to the ground. The fruit looks much better where the trees are spaced further apart.

Ribes odoratum selections have been picked, and some of them did very well inspite of the dry weather. In fact, they appear to be less affected by the drought than any other kind of small fruit. Light yields of raspberries are being harvested. The black raspberries are yielding a little better than red varieties this year. There are very few strawberries or gooseberries. Nanking cherries are also producing very light crops.

The second seasonal cultivation and hoeing of orchards and nursery has been completed. The nursery is being irrigated in order to size up the stock for August budding.

Mandan, continued:

The vegetable crops of all kinds are deteriorating rapidly although a few are being harvested both from the acre garden and other variety tests. Early cauliflower is about gone with cabbage, beets, tomatoes and summer squash coming on. Peas and beans are almost a total failure in the acre garden. Sweetcorn is also rapidly deteriorating but should give some yield.

Bagging and selfing was started in the sweetcorn project during the latter part of the week. Some strains show marked vigor and drought resistance, while the opposite is the case with others.

The lawns on the grounds are taking on a very spotted appearance in spite of the irrigating of a week ago. There is much dead grass apparent and unless good rains are received in late summer, some lawns will have to be reseeded next year.

The shrubbery groups and flower beds have been hoed and trimmed up during the week. So far the shrubbery is doing well. Most of the blossoms are gone, there being only Hydrangea arborescens, Spirea calloso alba and Spirea belliardi in bloom. The flower beds are picking up, however, and adding a needed touch of color about the grounds.

BELLE FOURCHE:

The whole week was hot and sultry with thunderstorms threatening almost every day. The amount of precipitation was low, however. Corn made rapid growth and most of the plats are tasseling now. The moisture in the grain plats was apparently exhausted and practically all plats fired to some extent. The oats and barley ripened rapidly and most of the plats were harvested on the 16th. Yields should be above the average, but not unusually high. The winter grains are turning and will be ready to heavest next week.

The farm picnic was held on July 17. The attendance was the highest recorded at any farm picnic here and was estimated between 3,500 and 4,000. The boys' and girls' club camp was held during the week. There were 101 registered at the camp.

Maximum temperature 94, minimum 50; precipitation .22 inch.
The precipitation for July to date is .87 inch.

ARDMORE:

The weather throughout the week has been exceedingly hot and dry with no precipitation whatsoever. Small grain crops have matured and ripened very rapidly. Most of the rotation plats "fired" very badly and yields will be light. However, the prospects are exceedingly good considering that the precipitation during the growing season for small grain has been the lowest in the history of this station, except in 1924. Fallow plats are showing up remarkably well.

Corn, sorghum and cultivated forage crops continue to make a very good growth and yields from these crops are expected to be very good, provided there is a fair amount of precipitation during the next thirty days.

Fields of oats and barley were harvested during the week and the harvesting in the rotation plats of oats and wheat started today.

The Annual Farmers' Picnic at the station was held on July 15, after being postponed from the 10th, because of unfavorable weather and road conditions. The attendance was much better than was expected. There were from six hundred to one thousand people on the grounds at one time.

Maximum temperature 97, minimum 52; precipitation 0.

ARCHER:

The weather during the past week has been a marked change in that it has been normal summer weather. The minimum temperatures have been those of about 52 or 53 degrees.

The work during the week has consisted of harvesting the winter wheat in the general field for hay. It is expected to yield better than two tons to the acre, the wheat in places being waist high. The remainder of the work has consisted of cultivating row crops.

On this date, July 17, the last of the field crops will have been cultivated since the storm, and the dry land plats will be about half cultivated.

The corn is making rapid growth although some plants have begun to tassel. The sunflowers are sufficiently high that the cultivation which is being given them will be the last for this season. The warm weather of July 16 caused some of the prairie grasses to curl. Other crops are doing well.

Maximum temperature 98, minimum 47; precipitation, Trace.

AKRON:

The past week has been favorable for field work and satisfactory progress has been made. This is the first week of field work since the heavy rains of the first of July and all the soil had to be stirred to check the myriads of weeds that had started. The sheep rotation, the rotation, the rate and spacing, and the variety and silage corn were cultivated early in the week. The fallow, green manure, and plowed under sod plats were cultivated. The fallow strips, such as for cereals and for forages, were duck foot cultivated. Later in the week the kafir and sorgo plats and the forage variety experiment plats were cultivated. Early in the week the barley cut for hay off the last year's forage variety experiment was hauled in and weighed. The 3.686 acres yielded 4,260 pounds of hay. Weed hoeing held attention where labor was available The first harvesting was done Wednesday when the Cereal Project rye plats were harvested. Then in order the two sheep rotation barley plats, the rotation barley plats, the increase barley plats, and the two sheep rotation winter wheat fields were harvested. All of this harvesting was done with the mower with reaper attachment except sheep rotation 28 wheat field. One increase block of rosen rye on fallow also got tall enough to harvest with the binder.

The rains of the first of July benefited the oats alone of the small grains. Winter wheat and barley were too near maturity for these rains to benefit any more than to make the berry more plump. The oats which had headed spottedly before the rain has sprung up to good binder cutting height and is heading with considerable promise. The spring wheat appears to have been too badly burned to recover as it shows no benefit from the rains.

Corn and the sorgos have made nice progress as have the beans, the millets and potatoes. Millet now stands about 20 inches high but has not headed and is beginning to burn. Corn is tasseling on the earlier plantings and is beginning to curl badly through the hot portion of the day. For the row crops, corn especially, there is need for more moisture since the days are becoming excessively hot.

Cereal nursery harvesting was started today. Professor W. J. Sjogren of the State College is in charge of this work.

Mr. J. E. Morrison, County Agent of Logan County, and Mr. R. E. Felts, District County Agent Leader for this district, were here early in the week arranging for a day's tour of the station in connection with the County Agent District Convention for this district late in July. Mr. D. W. Robertson, Plant Breeder, and Professor W. J. Sjogren visited the station Friday and Saturday.

Maximum temperature 95, minimum 55; precipitation 0.

COLBY:

The weather continued to remain very warm and dry for the week. Heading and combining of wheat in this section is nearing completion. Wheat is not turning out any better than earlier estimates. The bulk of the wheat in this county is yielding all the way from three bushels to twelve bushels per acre. There are a few fields that are yielding in the neighborhood of 20 bushels per acre, but these better fields are scarce.

Work during the week consisted of disking fields that were in the spring grains that produced no crop and general weed killing and getting the machine and equipment ready for threshing.

Corn and sorghums are still growing but the dry weather is causing the corn to roll and evidently on most preparations the corn is about spent. On the more favored preparations the corn is showing a few tassels. It is very doubtful if the other corn will even show tassels unless rain comes soon.

Native grass is completely brown and trees in isolated areas, unless on low ground, are showing a pronounced drying effect from the drought.

Maximum temperature 98, minimum 55; precipitation, Trace.
Evaporation 2.366 inches. Average hourly wind velocity 6.5 miles.

HAYS:

Previous to two showers totaling 1.20 inches the ground had become so dry and the temperatures high, the row crops were wilting badly and the soil spots that usually show up in bad years were being reflected in the crop growth. The rains revived the crops, but only while it was cool following the rains. The crops are again wilting badly. This is especially noticeable in the continuous cropping series of corn, kafir and milo. The fall plowed plats suffered extremely and very much more than other methods.

Threshing of small grains except spring wheat was finished July 3. The spring wheat was later maturing and was not threshed until July 9. The growing season for the small grains was full of thrills this year, at times giving promise of low yields and at other times extremely high yields. The finish resulted in approximately average yields for oats and barley, slightly above average for wheat, and near a failure for spring wheat. As nearly as can be stated at this time, winter wheat yields ranged from about 4 to 34 bushels per acre. However, but few plats produced yields above 25 bushels.

Hays, continued:

It has been necessary to do considerable work this season to protect the row crops from damage by chinch bugs and grasshoppers.

The work during the past week has consisted largely in spreading grasshopper poison, weighing and check weighing grain yields, soil sampling, and seedbed preparation for wheat.

Maximum temperature 95, minimum 58; precipitation 1.20 inches.

GARDEN CITY:

Moderate temperatures have been recorded during the past week. No rain was received. Corn and some of the earlier planted sorghums are beginning to roll during the heat of the day. Most row crops are making a satisfactory growth.

Winter wheat threshing on the dry land project was finished today, Saturday. Yields ranging from failures to 13 bushels were recorded. Most of the wheat was of fair quality. A marked difference in yield was secured in the date of planting test. Wheat planted from August 20 to October 1 all failed while that planted as late as November 1 made a very good yield.

Feterita in the first date of planting test headed during the week. Sudan grass planted on the same date was cut for hay.

Maximum temperature 97, minimum 57; precipitation 0.

DALHART:

The past week has been hot and dry. There has been very little wind during the entire week. The wind has not blown sufficiently to run the wind-mill over 10 hours the entire week. The water supply is running low but is not exhausted as yet. The days have been quite sultry due to the lack of a breeze. The maximum temperature recorded thus far this season is 94 but it seemed to be 110 in the shade.

Field work has progressed during the week without delay. The cultivating is all finished to date and the fields are in good condition. Some hoeing was done in order to clean out scattering weeds that were in the rows where the cultivators could not reach them. The cereal and forage block was staked off and the plat ends trimmed. This completes the plat trimming. It was delayed in this block until the present time to allow the last date to get sufficient growth to catch it with the rest. Rotations 58 and 59C are being plowed today.

Dalhart, continued:

The small grains were threshed this week. The winter wheat averaged 45.6 bushels per acre. This was the best yield of any of the small grains. Winter rye did not make as good yield as was expected. The winter rye ranged from 13.8 for CCA to 28.0 bushels on Rotation 89C. The rye on fallow made 24.5 bushels. The average for all methods is 18.6 bushels per acre. Oats made a good yield on Rotation 59, yielding 37.5 bushels, while that on 58 was 9.4 bushels.

The date of planting crops are heading now and the birds are flocking in to the harvest. The bird harvest is plentiful at present and will have to be continued daily for some time in order to protect the early crops that are heading. The bird shooting sounds like a target practice, but is getting results.

Wheat harvest in this section is still in full swing. Nearly every farmer is waiting on a combine to do the work. Some of the wheat is going down in the long wait but the lack of preparedness on the part of the farmers who were depending on the other fellow's combine is the cause of it. Unavoidable delays due to break-downs and other causes due to lack of experience in operating combines is causing much uneasiness among the wheat growers. From present indications, farmers in this section are going strong on wheat this fall.

BIG SPRING:

Weather during the past week has remained hot and dry. Several storms have threatened, but none have materialized.

All crops are making good growth, although a few plats have started to roll a trifle during the heat of the day. Feterita in the grain sorghum varieties is in full head as is Fried's Sorgo in the forage varieties.

Sudan grass in the rotations and in the May 15 date of seeding was harvested this week. Other work consisted of cultivating and hoeing weeds out of the rotation field and in cleaning out the orchard.

Mr. E. F. Chilcott, of the Woodward Station, was a station visitor on the 13th.

Maximum temperature 96, minimum 61; precipitation 0.

WOODWARD:

The past week has been very cool for this time of the year. Maximum temperatures were below 90° all but one day; minimum temperatures have also been low. Row crops are growing rapidly, probably averaging a foot or more of growth since thinning was finished about two weeks ago. Threshing has been hindered considerably by local showers, but is nearing completion in this vicinity.

Work has consisted mostly of cultivation of row crops and hoeing scattering big weeds out of the rows. All of the early fall plowed wheat plats have been plowed. There was sufficient moisture so that they plowed much better than usual. All of the roads have been disked since the plats were trimmed. Fallows are being cultivated and as soon as the row crops are cultivated the second time the project should be in excellent shape.

The April 20 and May 1 dates of planting of cotton have a few scattering large bolls, and a fairly good crop of smaller ones. The rest of the cotton, some planted as late as May 20 is blooming, and the June 1 date is setting squares.

A few blackberries have been picked. The cement walk connecting the three dairy barns, the silos and the milk house has been completed.

Maximum temperature 91, minimum 58; precipitation .06 inch.
Average hourly wind velocity, 5.4 miles. Evaporation 1.966 inches.

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 24 1926

REPORT FOR WEEK ENDING JULY 24, 1926.

HAVRE:

Grain crops ripened rapidly during the week. Two days of cool weather beginning on the 21st and a shower of .21 inch on that day checked maturity for a brief period.

Corn is rolling during the middle of the day and with continued warm, dry weather the yield will be light. Flint corns that were seeded early are starting to silk. Most of the early seeded oats and barley were harvested during the week, as well as some of the first date of seeding spring wheat. Flax is making very little growth and is becoming quite weedy. Spring rye is ready to cut. Second cutting irrigated alfalfa was harvested during the week and is an unusually heavy growth.

Mr. Stuart Lockwood, of the Bureau of Entomology with headquarters at Billings, Montana, was at the station on the 23rd and 24th. Mr. W. H. Black, of the Bureau of Animal Industry, was a station visitor on the 24th. Mr. J. A. Clark was here on July 21.

Maximum temperature 96, minimum 43; precipitation .21 inch.

HUNTLEY:

Hot days followed by cool nights with an occasional shower have been favorable to the growth of corn, beans and potatoes. Small grains have progressed too far to be benefited by good growing weather. Practically all grains are ripe and harvesting has been under way since July 19. Many of the neighboring farmers are harvesting with small combines as the straw is too short to permit cutting grain with a binder. Yields are reported to be from 6 to 10 bushels of wheat to the acre on summer fallowed land.

On the plats much of the grain has been smothered out by weeds and to prevent the weeds from going to seed the crop was mowed. Where the grain was tall enough and weeds were not too thick harvesting was done with the binder.

Spring pigs in the pasture experiments were removed from the plat of peas in the pasture rotation and placed on the emergency pasture of soy beans and Sudan grass. Gains made on the peas were small owing to the poor quality of the forage.

Maximum temperature 100, minimum 43; precipitation .24 inch.

SHERIDAN:

Grain ripened fast throughout the week, somewhat faster in fact than it could be harvested. Harvesting of winter wheat was completed. All of the barley was cut except two plats of a couple of the later varieties, the earlier maturing varieties of oats and wheat, Marquis wheat in the rates and dates of seeding, except the later seedings, and Marquis and Ceres wheat on barley and corn ground. A seed block of Ceres wheat on fallow is ready to harvest now. Arnautka wheat in the rotations, and on barley and corn ground seeded under the same conditions as Marquis and Ceres, is turning and may be ready to harvest during the coming week.

Weather conditions continued dry, but not quite as hot as the preceding week, except for the first two days. Outside of harvesting, station work consisted largely in weeding out the row crops, and getting up a light second crop of alfalfa from the ravines. There will be no second cutting of this crop on any of the plats this season.

Weeds on the station have been about as bad as in any year up to this time. Just sufficient moisture has fallen to allow for germination of weed seeds after about every cultivation.

Mr. W. J. Quayle visited the station on the 18th.
Maximum temperature 103, minimum 45; precipitation .01 inch.

MANDAN:

Agronomy

Precipitation amounting to 1.35 inches for the week has at last broken one of the severest early summer drought periods on record for Mandan and regions immediately around it.

Small grains on fallow and corn ground are ripening rapidly. About the best yield expected on corn ground will probably not be over 5 bushels, and the best on fallow not over 15 bushels.

Corn has picked up noticeably since the recent rains. Much of it on fall plowing is so far stunted that it cannot make much of a recovery. The best looking corn on the station is in the variety block which is check rowed. Selfing in the corn nursery was commenced this week.

Russian thistles are being mowed along the ends of all grain plats to facilitate harvesting.
Maximum temperature 101, minimum 46; precipitation 1.35 inches.

Mandan, continued:

Cooperative Grazing Experiment

Repair work is being done on the dam in the reserve pasture. The dam and spillway are being riprapped with rock.

Horticulture

The rains of the past week have greatly relieved fruit trees and small fruits. Dropping of leaves and fruit on account of the drought has been at least temporarily checked. However, heavier rains are needed to penetrate to the deeper roots.

The orchard cover crops were sown on July 20, it being too dry to seed before this date. The seed should germinate quickly with the moist top soil and warm weather.

Gooseberries and chokecherries are now ready to pick. The gooseberry crop is very light and, due to the dry weather, chokecherries have but very little flesh. Hybrids between the Chinese and cultivated apricot are ripening, but the fruit cracks open before becoming ripe. It is planned to grow some second generation seedlings of these crosses.

Bagging and pollinating has been in progress in the sweetcorn breeding project during the week. On the whole this project is successful again this year. There is much damage apparent due to the drought, but some strains show marked resistance to this and the various "families" or ear progenies having this characteristic are being concentrated upon. The selfing is being continued but some crossing is also done. Unusual difficulties have been experienced this season in bagging, some strains apparently showing no ears until the silks show in the axils of the leaves. A number of selections have been lost through the vagaries of the weather, sudden windstorms, and lately, showers, appearing during the night raising havoc with the bags.

Vegetables such as cabbage, cauliflower, beets, squash, peas and tomatoes are being harvested from the Acre garden project.

A piece of ground west of the seed house was graded and planted to crested wheat grass following the late shower of .83 inch of rain received during the week.

Mandan, continued:

Arboriculture

Mr. E. J. George: Faith, S. Dak., July 16. Everything nearly dried up in this section. Big acreage of flax just coming up. Corn fair but begins to have wilted appearance. Sturgis, S. Dak., July 20. Crops on dry land from here north to Newell in fine condition. Belle Fourche, S. Dak., July 21. Wheat harvest begun in several places. Dry land wheat crops are estimated at 20 bushels to the acre.

Mr. John L. Emerson: Glasgow, Montana, July 15. Crops excellent around Opheim. Malta, Montana, July 17. Crops only fair, need rain badly. Southern part of Phillips County nearly dried out except on fallow.

Mr. Lewis Mathews: Bottineau, N. Dak., July 18. Crops here best seen so far. Trees looking good. Mohall, N. Dak., July 21. Some fair crops north of here.

Office work has consisted in the preparation of application blanks for 1928 plantings, which will be sent to the County Agricultural agents as soon as ready.

Mr. E. R. Ausemus, in Charge of Western Wheat Investigations at this station, in company with Mr. J. Allen Clark, visited the State stations at Dickinson, Moccasin and Bozeman during the week. Mr. Ausemus returned to the station Thursday, July 22.

Visitors of the week included Mr. R. W. Smith, Associate Agronomist, Dickinson, North Dakota; Prof. A. T. Kirssanoff, Russian Agricultural Agency in America; Mr. J. Allen Clark, In Charge, Western Wheat Investigations; Mr. F. E. Cobb, President Bottineau (N. Dak.) State Forestry School; Mr. G. H. Collingwood, Forester, Office of Cooperative Extension work; Mr. E. B. Lambert, Stem Rust Investigations, University Farm, St. Paul, Minn.; Mr. Donald Fletcher, Barberry Eradication in Cooperation with Conference for the Prevention of Grain rust, Minneapolis; Mr. A. F. Swanson, Cereal Productions, Hays Branch Field Station, Hays, Kansas; Mr. P. C. Newman, Division of Crop and Livestock Estimates, Grand Forks, N. Dak.; Mr. A. C. Dillman, Flax Investigations. Mr. Dillman arrived at Mandan on Wednesday and leaves tonight, Saturday, for St. Paul, Minn.

BELLE FOURCHE:

The first two days of the week were very hot. On July 18 the maximum was 98, the highest temperature in July to date. The balance of the week was cool.

All grain plats have apparently run short of water and are now suffering or have ripened. All plats of oats and barley are now in the shock, and only one plat of winter wheat remains uncut. The spring wheat has turned rapidly. About one-third of the plats have been harvested and most of the rest of the plats are ready to harvest.

The corn has made good progress and all plats are tasseled out. No wilting has been noted as yet, though the soil in the plats has commenced to crack badly.

The hay crops have ceased growth and are commencing to fire. The second crop of both alfalfa and sweet clover will be light.

The total precipitation for the week was .54 inch. Rain fell on five days of the week. The precipitation for July to date is 1.41 inches.

Maximum temperature 98, minimum 53.

ARDMORE:

The hottest winds in the history of this station were experienced during the week. Very suddenly an extreme hot wind struck the country between ten and eleven o'clock Saturday night, July 17. This wind was so hot that it felt at times as though it was coming off a live fire. By midnight of the same night the temperature had climbed to above 90°, which was the highest temperature ever recorded at this station after sun-down. The hot winds continued to blow almost constantly until Monday night. The maximum temperature in the history of the station, 104, was recorded Monday afternoon. Monday night there was a slight rainfall and the temperature dropped very rapidly.

Corn and all cultivated forage crops were badly damaged by the hot wind. Monday afternoon about 25 per cent of the blades of corn were so dry that they rattled like dry paper when crushed in the hand. All small grain crops were practically matured and consequently past suffering material damage.

Cutting of wheat and oat plats was continued during the week. About one-half of these plats have been harvested. The second crop of alfalfa promises to be a complete failure and probably will not be harvested at all.

Maximum temperature 104, minimum 53; precipitation .09 inch.

ARCHER:

The fore part of the week was rather hot with wind squalls and traces of rain which blew the soil considerably. Local showers have occurred the last few days, the outer edge of one crossing the station yesterday. Considerable hail was present which shattered some of the ripening plats of winter wheat. The spring wheat, oats and barley were firing badly during the week, but the corn made rapid growth as did also the weeds.

The work at the station during the past week consisted of the cultivation of corn and potatoes in the plats and fields. The weeding of alleyways was finished yesterday. The first load of wheat hay was being weighed yesterday when the storm occurred. Today, Saturday, the wheat hay is being shocked.

Maximum temperature 93, minimum 42; precipitation .54 inch.

AKRON:

The past week has been favorable for field work. The harvesting of the nursery was continued and completed in the main by the middle of the week. The rotation winter wheat plats with the exception of the method of fallow plats, Rotation 149, and Rotation 51, were harvested. The wheat on the above mentioned plats suffered the most from soil blowing and were the plats to send up the greatest amount of new growth. On some of these plats as much as 50 per cent of the head covering is this new growth and it is still green.

On the Cereal Project, the fallow plats have sent up a varying amount of new growth so that harvesting has been delayed. The winter wheat, spring wheat, and a portion of the barley varieties on corn ground were dead ripe and harvested. In no case was the straw tall enough to bind, so the mower with reaper attachment was used. The forage variety strip from which barley was harvested for hay was duck-foot cultivated to eliminate weeds left after the earlier duck-foot cultivating. This second cultivation was done at right angles to the earlier cultivation. Considerable time was spent in putting new rings on the tractor and tightening the bearings. It was possible to start the thresher today. The two sheep rotation barley fields and sheep rotation 28 wheat field were threshed. The barley yielded about 3½ bushels per acre and the wheat, which appeared to be as good as any on the station, yielded but 4½ bushels per acre. The color and quality of the wheat was especially good. Much time was spent in ridding the farm of stray weeds, the hoe being used.

Akron, continued:

Corn is in tassel and has been suffering markedly the past three or four days. Sorgo and sorghums are more than knee high. Rape has completely crumpled to the ground. Millet just ready to head and in some instances the heading is burning badly. Beans, both early and late planted, are vigorous. The early planting has made vigorous top growth.

Beginning July 17 with a temperature of 95 the maximum steadily mounted to 101 on July 20. Thereafter the heat wave broke sharply and since that time this region has enjoyed comparatively cool weather.

Mr. L. W. Kephart, and Mr. F. A. Coffman visited the station early in the week.

Maximum temperature 101, minimum 50; precipitation, Trace.

NORTH PLATTE:

Severe droughty conditions are taking corn rapidly along the way to failure which was followed by grain crops earlier in the season. Frequent showers during the first half of the month caused a vigorous growth of corn. There is very little reserve moisture. High temperatures and strong winds prevailed from the 17th to the 20th, reaching a maximum of 107 degrees on the 19th. Lower temperatures afforded some relief during the 21st and 22nd, but strong drying winds occurred again on the 23rd, and the week closes with no rain in prospect.

COLBY:

Threshing was the main thing accomplished during the week. On a few days or parts of days it was too windy to thresh. The time on the windy days was spent in grinding feed and in hauling mill feed and 500 bushels of corn from Colby. Threshing of the experimental plats was completed with the exception of one and a half plats.

None of the weights on the D. L. A. project have been recorded. The weights of the rate, direction of seeding, and method of seeding have been tabulated. For an average of all rates of seeding the 3-peck rate is the highest, closely followed by the 4-peck and the 2-peck (which yields are approximately identical) with the 1-peck rate several bushels lower. The highest yield in this experiment was 44.4 bushels per acre. The average of 36 plats in this series is 24.9 bushels per acre.

Colby, continued:

Corn, except on fallow and a few favored listed plats, is showing bad burning and drying. Sorghums are drying and rolling and are making slow growth. Milo and kafir on fall plowing are dried worse and have made less growth than on spring plowing.

Maximum temperature 103, minimum 61; precipitation, Trace.

Evaporation 3.434 inches. Average hourly wind velocity, 11.4 miles.

HAYS:

Generally, the weather has been hot and dry. The temperature reached 100 on three days. Feed crops are needing rain very badly. All feed crops are wilting and suffering. Wheat land is dry and works hard.

The second crop of alfalfa on the bottom land is being harvested. Although the crop is better than the first crop, it has used all the water in the soil so a third crop cannot start until after more rains fall. The second crop on upland is from four to six inches high and practically dead. It is believed, however, that the roots are alive. The stand on ground seeded this spring is good but very dry.

Work during the week has consisted almost wholly in making soil moisture determinations and in seed bed preparation for winter wheat.

Maximum temperature 102, minimum 60; precipitation .31 inch.

GARDEN CITY:

Weather conditions the first four days of the past week were severe on most row crops. The maximum temperatures for those days ranged from 98 to 102. A high wind velocity was recorded for the period. The average daily evaporation for the four days was .536 of an inch. Corn wilted and was unable to recover even at night. Most of the sorghums rolled during the heat of the day. All sorghums growing on land cropped last year are standing still, while those growing on fallow are making some growth.

Field work consisted of cultivating the lister planted sorghums, double disking the wheat date block and hoeing fence rows and alleys.

Maximum temperature 102, minimum 62; precipitation 0.

DALHART:

This has been an unusually favorable year for winter wheat and the weather conditions have been unusual for harvest. Very little delay has been experienced on account of rain.

Dalhart, continued:

The crops are making good headway but are getting to the stage where rain is needed. One small shower or rather a fair rain was recorded this week netting .41 inch. While this is not sufficient to do a great deal of good, it will help to hold things for a longer period. Crops are not suffering as yet but during the hot days some leaf curling is noticed. Since the shower was recorded the temperatures have been more moderate.

The plat and increase fields are all in shape for inspection. They are all in better shape this year than at any time during the past eight years. The whole station is in better shape--fields, orchard, and tree plantings, vineyard, etc., being free of weeds and in a good state of cultivation. It has taken considerable time and work to accomplish this but the time has been well spent. Crops are making excellent headway. The milo on the rotations is heading as well as the second date of planting of milo, feterita, sunrise kafir, and Sudan grass. The first two dates of Sudan grass were harvested this week.

The plat of peanuts in Rotation 293 was fenced this week for rabbit protection. The rabbits centered all efforts on this one plat and were making good headway. They would not touch poison which was put out for them.

Maximum temperature 96, minimum 56; precipitation .41 inch.
The wind velocity has been very moderate.

TUCUMCARI:

Favorable weather the past two weeks has resulted in rapid progress of the wheat harvest in eastern New Mexico. Combine harvesting has been the rule where fields of any extent existed. A number of old binders and some headers are still in use, but practically no new machines have been sold this year of these types, while dozens of combines have been sold within a radius of 50 miles of Tucumcari. Tucumcari is receiving from fifty to eighty truck loads of wheat per day, with the price ranging around $1.10 for #1, with most wheat in this grade. The greater part of the un-hailed acreage is cut, while a large amount of badly hailed acreage is late and will ripen for the next three weeks. Yields are exceeding expectations and the average for the county, including hailed fields, may easily approach 20 bushels.

Row crops are growing exceptionally fast and indications point toward good yields. Although many fields were replanted at least once, sorghums are nearly as early as usual, for growth has been continuous and rapid. Ranges are in excellent condition and cattle were never in better flesh in this locality.

Tucumcari, continued:

Thinning of station crops has been completed and cultivating and hoeing are being done. Rainfall to date this year totals 14.77 inches, compared with 14.43 during the entire year of 1925 and 13.79 for 1924.

Crop prospects 50 to 100 miles north of Tucumcari are even more favorable than in this immediate vicinity, as noted on a ten day trip, July 9-19. Many wheat fields which should average from 30 to 40 bushels per acre were seen, while corn would compare favorably with that in average seasons in the corn belt. In the mountainous regions of eastern New Mexico native pastures were knee deep to cattle, the second heavy cutting of alfalfa was in progress, and corn, beans, and garden crops were growing luxuriantly. Heavy precipitation the past winter resulted in unusually high water in creeks, while cool temperatures and high summer rainfall have combined to make water requirements on irrigated patches very low.

Maximum temperature 93, minimum 58; precipitation .14 inch.
Evaporation 2.421 inches. Average hourly wind velocity, 4.6 miles.

BIG SPRING:

Two light rains netting .35 inch of moisture fell during the week. They tended to cool things off somewhat, but otherwise were not of much value. With the exception of the drill plats of cane and Sudan grass and the six inch spacing of milo in the rate of seeding, the crops have not suffered for the lack of moisture.

The early dates of seeding of feterita and milo are getting ripe, but the birds are so thick that it is doubtful if there will be anything left to harvest by the time these plats are fully mature.

Most of the work during the past week has consisted of hoeing out fence rows and cleaning up some of the increase fields. Threshing of the winter wheat plats is being done today. The yields are very light.
Maximum temperature 98, minimum 67; precipitation .35 inch.

WOODWARD:

The weather has been rather temperate during the greater part of the past week. A rain of 1.45 inches occurred, falling in about two hours time. Work for the fore part of the week consisted entirely of cultivating and hoeing and for the latter part chiefly of grading and dragging roads and putting in and repairing fences.

Over the country wheat harvesting is almost completed and much of the wheat is threshed, and land already listed in preparation of the new crop to be planted this fall. Early preparation increases in favor every year. Wheat yields in this section were above the average and July rains have come at exactly the time most needed by kafir, most of which was planted early in order to take care of wheat harvest. People in this section are, therefore, very cheerful, with a big wheat crop in the bin, an assured feed crop, and a bright outlook for a high yield of kafir grain.
Maximum temperature 98, minimum 63; precipitation 1.45 inches.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 31 1926

REPORT FOR WEEK ENDING JULY 31, 1926.
(Unless otherwise indicated.)

HAVRE:

The past week, with an average maximum temperature of 94, was the hottest of the season. The minimum temperature for three nights was above 60°. A shower of .04 inch was recorded on the 28th.

All spring grain crops are maturing rapidly and most methods are showing much prematurity. All of the barley and most of the oats on the rotations are in the shock. The spring wheat is being cut.

As has been stated before in the reports, stands are very ununiform and large variations are noted. No yields will be very high and there will probably be more failures for small grains reported than in any other year at this station.

Corn has made very slow growth and is rolling badly during the day. A few plants may possibly make grain but unless rain comes within the next few days the most of the plants will not silk.

A trip was made on the 28th west as far as Cut Bank which is near the foot of the mountains. The sentiment among the farmers throughout this entire area is very strongly in favor of summer fallow. Many farmers seem to have reached the conclusion that under a regular system of summer fallow they will be able to handle their land more economically than under other methods. Although the June rains were heavy in the Cut Bank territory, yields from fallow this year will just about double those of any other methods. In certain sections of this territory land that has been continuously cropped is becoming infested with wild oats, and in some cases fan weed, and in these areas fallow is necessary to control the weed growth.

Mr. N. F. Woodward, of the Forage Crop Office, was here from Moccasin on the 29th.

Maximum temperature 101, minimum 47; precipitation .04 inch.

JUDITH BASIN: Week ending July 24.

Moderately cool weather has prevailed throughout the greater portion of the week. Only a small amount of precipitation was received, and crops are commencing to suffer from lack of moisture. Corn is curling badly and small grains on the manure rotations are burning.

Judith Basin, continued:

A tour of county agents and farmers from neighboring counties was made to the station on July 19. Professor Clyde McKee and Mr. A. J. Ogaard from Bozeman addressed the visitors. Farmers from neighboring communities also made inspection tours to this station on July 20 and 24, under direction of the local county agent.

The Seventeenth Annual Farmers' Picnic was held at the station on July 22, and the attendance was estimated at 4000. Speakers for the occasion were Dean Hamilton, of Montana State College, Governor J. E. Erickson, United States Senator B. K. Wheeler, and Congressman Scott Leavitt. Ex-congressman Tom Stout presided as chairman.
Maximum temperature 86, minimum 35; precipitation .04 inch.

HUNTLEY:

With the exception of a few plats of late barley, harvesting of small grains was completed during the week. Plats of weedy grain that were mowed a week ago have been raked and burned. All row crops were hand hoed to clean out the weeds that escaped the cultivator, and isolated weeds on fallow plats were pulled.

Corn is again showing the effects of a shortage of soil moisture and rolls tightly during the day. Small ears are forming along the edges of the plats and in spots favored by runoff, but most of the plants apparently will form no grain unless rain is received.
Maximum temperature 100, minimum 51; precipitation, Trace.

SHERIDAN:

Conditions still continue dry. Sudan grass and sorgo are making rapid growth, but corn is beginning to show some effects from the prolonged dry weather. A light rain with cool weather on the 28th helped corn for a couple of days, but the crop has dried considerably during the last two days. While the most of the plats still continue in fair condition, rain is needed soon to make any crop. Solid seedings of Sudan grass and sorgo were fired badly by the 26th and are firing again now.

Harvesting of small grain was completed with the exception of a few late maturing plats of spring wheat in the rotation field; the later dates of seeding spring wheat, oats, and barley; Arnautka wheat in the variety trial, and a few other isolated plats in the varieties.

Mr. J. M. Stephens visited the station the 26th and 27th.
Maximum temperature 95, minimum 50; precipitation .17 inch.

DICKINSON: Week ending July 24.

The drought has continued with several very hot days and a few cool ones. A shower of .16 inch on the 22nd was the only rain of any benefit to crops and all evidence of this had disappeared by noon of the next day.

Some of the grains on fallow look very well but other methods are failures so far as yields of grain are concerned. Some of the best plats on fallow may yield around 15 bushels of wheat and about 25 bushels of oats. An increase field of Ceres wheat on fallow looks like it might go 12-15 bushels.

Harvesting of grains began on July 17 when wheat, oats and barley on the continuously cropped plats were mowed. Most of the oats and barley on fall and spring plowing on the rotations were mowed on the Main field. Grains on the Normal School field are somewhat better than on the Main field so none of these were mowed.

Early varieties of oats and barley were cut July 19 and some of the later varieties are being cut today. The first date of seeding flax is being cut.

Corn is curling and showing marked effect of drought on all methods except fallow. The growth of corn is very short, some of it being fully tasseled and less than three feet high.

Most of the oats and barley and probably 10 per cent of the wheat on farms in this locality is being mowed for hay.

Visitors during the past two weeks included Mr. J. A. Clark, Mr. E. R. Ausemus, and Mr. C. O. Swanson of the Cereal Office, and Mr. J. A. Kitchen, Commissioner of Agriculture, Bismarck, N. Dak.

Maximum temperature 98, minimum 39; precipitation .20 inch. Precipitation to date in July, 1.12 inches. From January 1, 1926 to date, 7.44 inches.

DICKINSON:

The weather continued hot and dry so that the balance of the grain crops ripened rapidly, and most of the harvesting was completed on the station. Flax on the rotations was cut on the 31st, being the last of the grains on these plats. Only a few plats of late oats and the last date-of-seeding of wheat remain in the cereal variety tests. Nearly all of the increase field of Ceres wheat was cut. This field looked very good considering the very unfavorable season.

Dickinson, continued:

Corn dried very badly during the week except that on fallow. The present outlook is for the lowest yield of corn ever harvested at the station.

Millet on fallow is still fresh and growing, while that on disked corn ground is drying up.

Most of the wheat on farms is being cut with headers, some of it being run through the thresher immediately.

Stock water is becoming scarce as some of the more shallow wells are drying up. The well on the station was low a day or two when the pump was run all day.

Mr. K. S. Quisenberry spent most of the week here in harvesting and studying the material in the winter wheat nursery. Other visitors were Mr. J. A. Clark and Mr. V. F. Tapke, of the Cereal Office.

Maximum temperature 100, minimum 47; precipitation .04 inch.

Precipitation January 1 to July 31, - 7.48 inches, or 3.25 inches below average.

MANDAN:

AGRONOMY

Another good rain of .66 inch fell during the week, making the total for the month 2.10 inches. The recent rains have helped the corn and forage crops. Corn is small but now stands a chance of making some grain.

Harvest of small grain is practically completed. All plats that are fit to cut at all contain an abundance of Russian thistle, making the cutting difficult. The thistle will also interfere with the threshing.

Maximum temperature 97, minimum 51; precipitation .75 inch.

COOPERATIVE GRAZING EXPERIMENT

Cattle were weighed on July 30. They show fair gains for the month, but the gains have not been computed for all pastures.

Hay in the mowing experiment was cut and weighed. In the units cut once in two years, the yield was 480 pounds per acre. In the units cut every year, the yield was twenty-eight (28) pounds per acre. It was so short that it was impossible to get all of it.

Mandan, continued:

The rain at the pasture was 1.40 inches. This put about 2 feet of water in the dam, which has been dry since early in June. All the low places were filled with water.

HORTICULTURE

Selection work with chokecherries, gooseberries and sandcherries has been in progress during the week. Chokecherries are fairly good, but gooseberries and sandcherries are generally poor. Some of the sandcherry selections that looked very good last year are poor this year. Opata plums are starting to color up, and a few Yellow Transparant apples have been picked.

Stocks for budding are very small this year. It may be necessary to leave them another year for this purpose.

All orchards are now being cultivated for the third time this season.

Work in the sweet corn breeding project has been in progress during the week. About 1,000 pollinations have been secured, but much labor performed in bagging has been lost through wind and rainstorms during the early part of the week.

Tomatoes are continuing to ripen. The yield is much smaller than in any year previous, though of very good quality.

Early cabbage and cauliflower are almost over. The yield was fair and quality good.

The "Gills Early Market" variety of sweet corn is now ready for use. The ears are large and on account of its earliness this variety is a very desirable one.

The bluegrass lawns and flowerbeds have improved greatly since the rains, and are now looking their best of the season.

Weeding on the roads has been in progress during the week.

ARBORICULTURE

Shelterbelt inspectors report the following:-

Mr. E. J. George: Gillete, Wyo., July 25. Crop conditions fairly good, but not up to western South Dakota. July 27. Opened 74 gates in 62 miles going through Powder River country today. Sheridan, Wyo., July 28. Good wheat crops on road into Sheridan.

Mandan, continued:

Mr. John L. Emerson: Havre, Mont., July 22. Crops north of here not very good. Wheat will not yield over 10 bushels per acre. Crops nearly dried up between Havre and Big Sandy. Chester, Mont., July 25. Crops near here and to the southwest are poor. Few fields on summer fallow are fair. Early corn still has a chance. Cut Bank, Mont., July 26. Grain is good in this section. Wheat should yield 15 to 20 bushels per acre.

Mr. Lewis Mathew: Bowbells, N. Dak., July 24. Crops good north and west of Powers Lake. Drove through some fields of wheat waist high, with heads two and a half inches long. Crosby, N. Dak., July 26. Crops generally good through this section. Wheat estimated at 20 to 25 bushels per acre. Williston, N. Dak. Crops only fair south of here.

Application blanks for 1928 shelterbelt plantings were mailed to the County Agricultural Agents of Montana, North Dakota, South Dakota and Wyoming on July 30.

Visitors of the week included Mr. J. Allen Clarke, In Charge of Western Wheat Investigations; Mr. Karl Quisenberry, Associate Agronomist, Western Wheat Investigations; Mr. A. C. Dillman, Flax Investigations; Mr. V. F. Taphe, Cereal Smut Investigations.

BELLE FOURCHE:

Grain crops ripened rapidly during the week and all plats except one of wheat and one of flax are now harvested. The wheat on all plats made a good straw growth, but on some plats the heads are not well filled. The winter wheat plat on summer fallowed land was partly lodged, and the lodged portion was damaged to some extent by stem rust.

A rain of .55 inch fell on July 28. This rain was of great benefit to corn. Sorghum and corn made satisfactory progress during the week. There was no wilting of these crops on the hottest days, though the soil is cracking badly.

The second cutting of alfalfa and sweet clover was made on July 31. These crops had commenced to fire badly. Yields will be low.

The precipitation for July was 1.96 inches. This is .40 inch less than the 19-year average. The total for the year to date is 13.32 inches.
Maximum temperature 92, minimum 52; precipitation .55 inch.

ARDMORE:

The weather throughout the week varied somewhat in being alternately hot and cool. During the evening of July 25 there was a severe hailstorm which damaged 30 per cent of the small grain that was still in the field. There was also a 10 to 20 per cent damage to corn and sorghum. Very little field work was done during the week. Some rotation wheat plats were harvested and late cultivation of sorghum was completed.

On Friday, July 30, the steers in the 80-acre pasture and also in the 150-acre pasture were weighed and they showed moderate gains. However, those in the 160-acre pasture showed some loss. Twenty-three head not on actual experiment and pasturing on 320 acres showed a material gain.

Official visitors during the week were Mr. J. M. Stephens, Superintendent of the Northern Great Plains Field Station at Mandan, North Dakota, and Mr. William A. Black, who is in charge of the Beef Cattle Experiments at Washington, D. C.

Maximum temperature 95, minimum 48; precipitation 1.74 inches.

ARCHER:

The weather has been ideal for the growth of sunflowers but not so good for corn. While the days have been rather warm, the temperatures have not been high. Local showers prevailed, one of 0.22 of an inch being the only one of importance to visit the station, there being five other days during which traces or slightly more precipitation were recorded.

Some of the winter wheat is ripe and harvesting will commence this afternoon. Plats of alfalfa are being cut for the second time this forenoon. The corn is tasseling, mid-season oats are heading and spring wheat has headed as also most of the barley varieties. Of the above crops corn is the only one which has not made normal growth.

The work at this station has consisted of stacking winter wheat hay. The yield per acre was the same as that of last year, 1.7 tons. The quality is fair but the yield, no doubt, was decreased by hail damage. Other work has consisted of weeding trees and cultivation of field corn.

On July 28 the Superintendent drove to Sterling, Colorado, at the invitation of the Extension Director, Mr. Roud McCann, to discuss with the Extension force of Eastern Colorado the results secured at this station relating to cereal production. There is much territory between here and Sterling where it appears that the results secured at the Archer Station should be applicable. On the return trip a stop was made at Hereford, Colorado to inspect the 700 acres of winter wheat seeded with the furrow drill on fallow at the Hereford Farms. Three combines were harvesting. The yields were estimated at 30 bushels per acre. The duckfoot fallow is also receiving considerable attention.

AKRON:

The soil was too wet for field work early in the week, but by Wednesday most types of cultivation could be accomplished. The rotation sorgo and kafir plats, the bean variety experiment, the bean increase blocks, and the silage corn were cultivated. Practically all the remaining plats on the cereal variety were harvested. The oat plats on the main rotation field, and on the rotation extension block were harvested. The first threshing was done Tuesday afternoon when an increase block of Rosen rye was threshed. This rye was on fallow and on low ground. The grain was of excellent quality and the yield was about 16 bushels per acre. Thereafter the two sheep rotation barley and winter wheat fields were threshed. The barley on rotation 51 made 4 bushels per acre while barley on rotation 28 made 3.4 bushels per acre. Winter wheat on rotation 51, the pastured rye, made .9 of a bushel per acre. Winter wheat on rotation 28, the pastured fallow, made 4.5 bushels per acre. Weed hoeing held considerable attention. Early in the week the tractor was given a general overhauling.

Late Thursday evening .86 of an inch fell accompanied by a severe hail which damaged the growing crops badly. Corn and sorgo plants are badly stripped and it is not known how serious the damage may prove. The plats to be injured worse appear to be the mountain buckwheat and the soybeans. The center of the hail storm missed the station by some three hundred yards. Farms in this strip were badly damaged. The hail strip was narrow, being only some quarter of a mile wide, and so far as has been learned the storm did not persist for any great distance on either side of the station.

Today, July 31, about twenty county agents and extension workers are making an all-day visit of the station.
Maximum temperature 92, minimum 50; precipitation 1.93 inches.

NORTH PLATTE:

Another week without rain has passed. High temperatures continue to prevail. Corn on the worst plats is entirely dried up and the stalks are falling down. Injury is very irregular. Parts of some plats are entirely dead and other parts quite green. Plats of similar cultural treatment are not affected in the same way.

Grain from the plats harvested with a binder was threshed during the week. There were 36 of these, mostly on fallow. No attempt was made to thresh the 142 plats cut with a mower. None of the yields would have been more than one or two bushels per acre and weeds made the securing of total weights impracticable.

The irrigation pump on the bench is being run 15 hours per day in an attempt to keep feed crops in growing condition.

COLBY:

Weather continued hot and dry during the week. Corn on all fall plowed plats and on most of the spring plowing is drying up rapidly and is beginning to fall down. Most of it has not even started to tassel. Sorghums are also drying quite rapidly. Milo on fallow is dried quite noticeably. Most of the sorghums would show recovery with rain but the corn could not.

Some plats were fall plowed and packed. Needless to say, they plowed very rough and hard. The fall listed plats were listed at the same time.

Work during the week consisted of the plowing of plats that go into wheat, finishing of experimental threshing, miscellaneous clean up of work, and hoeing of weeds in the roads.

Mr. J. B. Kuska starts work on the station on August 1, taking the place vacated by W. H. von Trebra who goes into County Agent work. Mr. Kuska will be remembered as being in charge of the D. L. A. project here from 1914 to 1919.

Maximum temperature 102, minimum 54; precipitation 0.
Evaporation, 2.598 inches. Average hourly wind velocity 8.0 miles.

HAYS:

Drought continues except for one-half inch of rainfall coming in a shower that occurred July 29. Falling on top of a very dry soil in a dry section this apparently did very little good, and crops are suffering as much as before the shower.

During the last four months, April to July, inclusive, the rainfall has averaged little more than one inch per month below normal. The average total for the four months is 11.05 inches. The 1926 record shows a total of 7.46 inches for the same period.

The work during the week has been a continuation largely of seedbed preparation work for wheat, and soil moisture work. Also some repair work was done on ditches to take care of the excess and run-off from the rains which are hoped for in the near future.

A new crop of chinch bugs are hatching in row crops, and it is noted the "hatch" is very good. The young bugs are healthy and thriving well under the sunshiny conditions at a great expense to the row crops. Many of the milo plants have already perished. Kafir and corn is heavily infested and cannot help but suffer seriously unless the drought is soon broken with good rains and followed by damp weather.

GARDEN CITY:

Lower temperatures and less wind velocity were recorded this week than during the week previous. A rain measuring 1.4 inches was received Wednesday night. It came slow enough that little of the moisture was lost through surface runoff. Corn and the sorghums have revived to quite an extent since the rain. Two corn plats which had started to fire have not fully recovered. Although temperatures have been low for the past two days some sorghums are rolling this afternoon. Milo is just beginning to head.

Field work consisted of plowing the date block and all early fall plowed winter wheat plats and listing all of the early fall listed plats.

The Wheat Special" conducted by the Santa Fe Railway and the State Agricultural College made a stop in Garden City Tuesday.

DALHART:

Another hot dry week has passed. Only one time during the week looked as if it might rain but finally cleared off without an effort. The grass on the ranges is about dry enough to burn. The maximum temperature for the week and month of July is 96, minimum for the week and month 54. Precipitation for the entire month is 0.68 inch. This amount was recorded in four showers.

Very little work was done in the fields this week as they are all in good condition and will not need any further work until it rains. Some work was done on fences this week, putting them in a little better shape. Considerable dirt was hauled to fill in around the barn, so as to eliminate the water hole that is so troublesome during rains. Some hoeing was done in the tree plantings. The roadways were mowed again this week. Sudan on Rotations 84 and 87 was harvested this week.

The crops are heading all over the place now, and are getting to the point where a good rain will help considerably. Nothing has shown signs of suffering as yet, although some rolling has been apparent during the hottest days. The only plats firing are the broom corn date plantings. This crop always fires whether it rains or not, so is no indication. The first three dates of cotton are blooming. The stand on these three dates is pretty good; however, will not permit the two rates of thinning as planned. The last two dates were thinned today to 6 and 12 inches in the row.

Bird shooting is still in progress. The birds are coming in faster than they can be killed off; however, the shooting is keeping them from damaging plats thus far.

A number of picnics have been held at the station this year. Two were held here this week. The people enjoyed themselves and stated they were glad to be able to visit a place that is attractive from every point of view. It is a pleasure for us to have crops, etc., in good condition for public inspection. Visitors are encouraged to return at any time.

TUCUMCARI:

Crops have grown well the past week, but during the heat of the day rolling has been extensive. While the soil contains a large amount of moisture below the second foot, the surface two are drying rapidly and a good rain is needed. Most sorghums are in the boot or beginning to head, and a general rain over this locality would be of immense value.

Station winter wheat average 23.3 bushels, with MCC high with 30.3. Winter rye ranged from 8.2 to 18.7, with an average yield of 13.2 bushels. The market has ranged from $1.12 to $1.15 the past week, with receipts heavy.

Work the past week has consisted of cultivating, hoeing, trimming hedges, plowing MCB wheat and rye plats, and cleaning grain. With very few exceptions plat stands are very satisfactory this year, and unless dry weather occurs during the next few weeks, indications point toward better than average crops. Row crops in this county are much better than usual at this time of the year, and fields seem to be unusually clean; perhaps due to the fact heavy rains washed out the first planting and necessitated re-preparation and replanting.

Maximum temperature 98, minimum 57; Precipitation 0.0; Evaporation 2.119; Wind velocity 4.0 miles.

BIG SPRING:

A good rain netting 1.43 inches fell on the night of July 25; this has improved crop conditions throughout this section of the country to a great extent. Many of the Station plats which had begun to show the effects df dry weather are now making an excellent growth. All grain sorghum plats are now heading, and give promise of making some good yields this year.

The April 15 date of seeding, and also the May 1 date of Feterita was harvested this week, as was also the June 1 date of Sudan grass. Early Buff and Black-eyed cowpeas were also harvested. A good many varieties of grapes were picked during the past week, many of which made very good yields.

Maximum temperature 100; Minimum 66; Precipitation 1.63 inches.

LAWTON: Report of July 24.

Temperatures have been variable since the 10th of July, ranging from 58 to 97 , but as a whole, the torturing summer heat, usually prevalent, has been strikingly moderate and comfortable. A good many storm threats resulted in local showers, and in many places highly beneficial rains. In the immediate vicinity of Lawton, however, the lack of moisture has been an outstanding factor with crops. Nevertheless row crops are still in pretty shape, and there is a good chance to produce average yields if rainfall is well distributed the remainder of the season. But, as yet growing vegetation is dependent upon future rainfall.

Lawton, continued:

Considerable plowing has been done, but with much effort, because of the dry soil. Alfalfa growth has been at a standstill all summer. Sweet clover seeded in nursery rows has made some growth. Sorghums in the earlier seeding dates are pretty well headed, and many of those in the variety test are just beginning to head. Most of the cowpeas are practically mature. A good crop of seed is born, but plant growth is sharply restricted.

Mr. L. W. Kephart of the Forage Crop Office and Mr. J. R. Horton of the Federal Entomology Laboratory at Wichita, Kansas, were station visitors during the week.

The Farm Picnic held on the station the 23rd, in cooperation with the A and M College was pretty well attended. Careful estimates placed the maximum attendance at 500. Following a tour of the Station in the forenoon a picnic dinner was the feature of the noon hour. The afternoon program was given to talks by Dr. Bradford Knapp, President of the A and M College; L. C. Aicher, Superintendent of the Hays, Kansas, Station, and two local farmers.

Precipitation for the month of July is as follows:

July 8	.04
10	.73
13	.20
22	.14
25	.68
Total to date,	1.79 inches.

WOODWARD:

Two good rains occurred during the past week, one of .93 inch on the 25th and the other 1.25 on the 29th. The temperature has averaged rather warm, and crops have been growing rapidly. Some corn over this section is mature enough to begin feeding, and sorghum crops are beginning to head.

Due to the heavy rains considerable road work was done during the week. Other work consisted of hauling manure, discing the orchard and vineyard, hoeing, fanning wheat, etc.

A few baskets of grapes were picked on the 27th, 10 days later than our first grapes last year.

Maximum temperature 96; Minimum 63; Average hourly wind velocity 4.2 miles; Precipitation 2.18 inches; Evaporation 1.822 inches.